Notes on "Blind Grass" or "Candyup Poison," (Stypandra imbricata R. Br.) and certain other species that have been confused with it. By **Edwin Cheel**, Curator, National Herbarium, Botanic Gardens, Sydney.

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In Robert Brown's Prodromus, p. 279 (1810) five species of Stypandras are described, two of which are natives of of Western Australia, and the other three are natives of the Eastern States. The *Stypandra scabra* of Robert Brown has been referred to the genus Agrostocrinum by modern workers, and *S. imbricata*, the only other species from Western Australia described by Brown, has been reduced by several authorities as a synonym of *S. glauca*, a native of New South Wales and Victoria.

Brown's descriptions of these two species are in Latin, and may be freely translated as follows:—

Stypandra glauca R. Br. Leaves all distinctly turned back, the sheathing base or margin reflexed.

Stypandra imbricata R. Br. Leaves imbricate, the sheathing base with simple margins.

Since Brown's Prodromus was published, five additional species have been proposed, viz.: *S. frutescens* Knowl et Weste (8a); *S. propinqua* A. Cunn (4); *S. grandiflorum* Lindl. (9); *S. virgatum* Endl. (5); and *S. scoparium* Endl. (5). Mueller (12) includes all the above as synonyms under *S. glauca*. Baker (1), however, reduced *S. propinqua* of A. Cunningham to a variety of *S. glauca*, and includes *S. virgata* of Endlicher under the var. propinqua as a synonym. Bentham (2) evidently regarded the Western Australian plant distinct from those of the Eastern States, for we find that, after quoting specimens from King George's Sound and Lucky Bay and eastward to Cape Legrand, he states that it "is a variety with narrower, crowded leaves, which, however, passes gradually into the common form."

In connection with *S. grandiflora* of Lindley, Bentham regarded it as a "luxuriant variety (of *S. glauca*) with a perianth 8 or 9 lines long." *S. scoparia* of Endlicher is also regarded by

Bentham (2) "as a variety (of *S. glauca*) or perhaps only an old state with very numerous short lateral branches and densely tufted narrow leaves."

Maiden (10) evidently regarded the Western Australian plants as belonging to *S. glauca*, and published the following remarks concerning some specimens sent by Mr. Ash from Western Australia: "This is a herb which is said to cause animals that have fed on it to go apparently blind and run into any sort of object. It seems to be the least fatal of all the poison plants. It is slower in taking effect. It is found in the vicinity of the South Coast." Mr. Maiden further states that "this plant is common in the neighbourhood of Sydney, the Blue Mountains, and many other parts of this colony, but I have never heard of it having been reported as a poison plant here. But in Western Australia it is much more abundant than it is with us, and it has so frequently and so consistently been reported as the cause of 'Blind Disease' in sheep, that there appears no room to doubt its dangerous nature." In a subsequent paper by Mr. Maiden (11) the New South Wales plants are again referred to under the title "Is *Stypandra glauca* R. Br., a Poisonous Plant?"

Then we have a reference to it by Guilfoyle (6), who evidently regards the Western Australian plant distinct from those from the Eastern States, as we find that he lists it under the name *S. glauca* var. *imbricata*, using the common names "Blind Grass" or "Blue Spray." It is interesting to note, however, that Guilfoyle also lists *S. glauca* for Western Australia and other States, using the common names "Greyish-green-leaved Stypandra," "Candyup Poison," as well as "Blind Grass" and "Blue Spray" for this latter species. It may be that *S. grandiflora*, which is also a native of Western Australia, has been confused with *S. glauca*, as this has a much closer resemblance to *S. glauca* than *S. imbricata*.

In 1921 Herbert (8) refers to the "Blind Grass" (*Stypandra glauca*) and gives the following interesting particulars concerning it: "Blind Grass is a lily, and except for its flower, might easily be mistaken for a grass. It grows amongst granite rocks throughout the Darling Ranges and extends far into the drier areas of the wheat belt. It produces blindness in stock, and ultimate death, though deaths are rather uncommon. Stock eating the plant become very poor, partly due, perhaps, to their not being able to forage as well when blind. Paralysis and finally death follows on a continued diet. Laboratory tests on rats bore out field observations. Two rats fed with the ground-up air-dried leaves mixed with pollard became blind in two days. On each day about two grains of leaves were eaten. Partial paralysis followed, but the rats did not die after a week's treatment. Protracted feeding may, however, have resulted fatally. *Stypandra*

glauca is also found in the Eastern States, but there has no injurious effect on stock, so far as is known. It is commonly said that in the eastern districts of Western Australia it is not injurious, but experiments with materials from Kulin Rock, which is a dry eastern locality, showed that the plant had lost none of its virulence, and the evidence of settlers in the wheat belt shows that it is as dangerous there as in the Ranges."

Having examined the whole of the material represented in the National Herbarium, Sydney, I am of the opinion that the specimens collected in Western Australia are distinct species from those of the Eastern States, and can be easily defined by characters as outlined in the following key:

Leaves conspicuously distichous and distinctly turned back at the sheathing base. Inflorescence leafy, the upper leaves similar to the basal leaves .. .. *S. glauca*

Leaves simple, embracing the stem, not turned back. Inflorescence comparatively naked or supported by ovate bracts dissimilar to the lower leaves

Leaves narrow, imbricate, more or less crowded. Flowers small, 5-7 lines ... *S. imbricata*

Leaves broad, not crowded. Flowers large, 8-9 lines long .. .. *S. grandiflora*

I have not had an opportunity of examining fresh flowers of the Western Australian plants, but feel that, quite apart from the characters given above, a close examination of the floral organs in a fresh condition will reveal other characters by which the Western Australian plants can be distinguished from *S. glauca* from New South Wales and Victoria.

It has been repeatedly reported that *Stypandra glauca* is poisonous to stock. Reports from Western Australia are very definite on the matter, especially as shown in the report published by Herbert (8). On the other hand, it has been shown by a series of feeding experiments conducted by Henry and Hindmarsh (7) that they were "unable to find any evidence that *Stypandra glauca*, as found growing in New South Wales, is harmful to live stock, but rather that the plant will support life for comparatively extended periods." In view of the conflicting evidence advanced in regard to these plants, which hitherto have been regarded as belonging to one species, it would be of some interest to conduct similar feeding experiments on the two species found in Western Australia.

The distribution of the two species from Western Australia is as follows:—

Stypandra grandiflora Lindl.

Buckingham's, near Collie, F. J. Trowbridge, November, 1924.
Statham Siding, Darling Range, W. M. Carne, September, 1924.
Greenmount, R. Helms, September, 1899.
Wooroloo, Max Koch (No. 1511), September 1906.
Lowden, Max Koch (No. 1958), September, 1909.
King George's Sound, B. T. Goadby, August, 1898.
Albany, H. E. Sheath, November, 1904.

Stypandra imbricata R. Br.

Brookton, G. S. Railway, S. G. Maynard, communicated by W. C. Grasby as a supposed poisonous plant, September, 1916.
Moora River, E. Pritzel (No. 575).
Warangering, R. Helms, November, 1891, with the leaves shorter and more or less clustered.
Greenmount, R. Helms, August, 1897.
Perth, Dr. J. B. Cleland, September, 1908.
Cunderdin, Dr. J. B. Cleland, September, 1908.
Albany, H. Sheath (H. Sheath ex Herb. C. R. P. Andrews).
Buckingham's, near Collie, F. J. Trowbridge, November, 1924, ex Herb. Department of Agriculture, W.A.
Wongan Hills, W. M. Carne and C. A. Gardner, September, 1924.
Statham's Siding, Darling Range, W. M. Carne, September, 1924.
York, A. J. Monger, October, 1924.

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